



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/602,471

06/23/2003

Jeffry Arnold LeBlanc

8209.034.NPUS00

2653

70165 7590 10/25/2007
SEAGATE TECHNOLOGY LLC
C/O NOVAK DRUCE & QUIGG LLP
1000 LOUISIANA, SUITE 5350
HOUSTON, TX 77002

EXAMINER

KRAUSE, JUSTIN MITCHELL

ART UNIT

PAPER NUMBER

3682

MAIL DATE

DELIVERY MODE

10/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/602,471

Applicant(s)

LEBLANC ET AL.

Examiner

Justin Krause

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 21-37 is/are pending in the application.
- 4a) Of the above claim(s) 6-8, 10-11, 15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9, 12-14 and 21-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 17, 2007 has been entered.

Election/Restrictions

Claims 6-8,10-11, 15 and 16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 21, 2005.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the step opposing a portion of the at least one set of grooves (claims 2 and 14) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 26 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 25 recites that the

Art Unit: 3682

base has a base surface facing the end of the rotating shaft, claim 26 recites the same limitation.

Claim 34 seeks to define a direction in which a measurement is taken. It is unclear what structural feature of the device the claim further defines. It is suggested that applicant merge claims 33 and 34 together, to define the width of the step in claim 33.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12-14 and 29-37 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "journal" in claims 12-14 and 33 is used by the claim

Art Unit: 3682

to mean "a gap", while the accepted meaning is "the shaft within the bearing." The term is indefinite because the term "journal" as used, is repugnant to its usual meaning. The examiner suggests that applicant use the term "gap" in place of "journal". Support for the term 'gap' is found in the specification, and this is the intent of the claim.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 1,2,4,5, 9, 21-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Moritan et al. (US Patent 5,715,116).

Moritan discloses a fluid dynamic bearing system comprising:

- A stationary sleeve (27)
- A rotating shaft (16) axially disposed through the sleeve
- A journal gap between the shaft and the sleeve, defined by first and second interfacial surfaces of the shaft and sleeve (see Fig 1)
- At least one set of fluid dynamic grooves (12a) formed on the first interfacial surface of the journal gap
- At least one step (profile in sleeve 21) defined on the second interfacial surface of the journal gap, wherein the at least one step reduces the journal gap in a

localized region and at least partially aligned with a portion of the at least one set of fluid dynamic grooves.

Regarding claim 2, the step opposes a portion of the at least one set of grooves across the journal gap.

Regarding claim 4, the at least one step comprises a circumferential raised surface on the second interfacial surface.

Regarding claim 5, the at least one step is opposite and offset axially from the at least one set of fluid dynamic grooves.

Regarding claim 9, the first interfacial surface of the gap comprises the inner diameter of the sleeve and the second surface comprises the outer diameter of the shaft.

Regarding claims 21-24, the step as shown in figure 2a of Moritan satisfies the limitations as claimed.

Regarding claims 25-27, Moritan discloses a base (22) facing an end of the rotating shaft (fig. 2a) the base includes a counterplate and the base surface is a surface on the counterplate.

Claims 12-14 and 29-37, are rejected under 35 U.S.C. 102(b) as being anticipated by Moritan et al (US Patent 5,715,116).

Moritan discloses a fluid dynamic bearing motor comprising:

- A stationary sleeve (21)
- A shaft and hub rotatable in relation to the sleeve (12 and 11)

- A journal defined between the sleeve and the shaft (see Fig 1c, the area defined between 12 and 21)
- A fluid bearing means between the sleeve and the shaft (Col. 7, lines 43-46)
- A pressure regulating means (profile in sleeve 21, see fig. 1b) cooperating with and opposing the bearing means across the journal therefrom to maintain proper axial alignment of the shaft and hub with the sleeve.

Regarding claim 13, the fluid bearing means comprises at least one set of fluid dynamic grooves (12a) formed on a first surface defining the journal.

Regarding claim 14, the regulating means comprises at least one step (profile in sleeve 21) formed in the second surface defining the journal and is disposed at least in part across the journal from at least one set of fluid dynamic grooves.

Regarding claims 29-34, the step as shown in figure 2a of Moritan satisfies the limitations as claimed.

Regarding claims 35-37, Moritan discloses a base (22) facing an end of the rotating shaft (fig. 2a) the base includes a counterplate and the base surface is a surface on the counterplate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 3682

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moritan as applied to claims 1 and 2 above, further in view of Sakatani et al (US Patent 5,046,863).

Moritan does not disclose asymmetric grooving.

Sakatani teaches the use of an asymmetric grooving pattern for the purpose of directing the flow of lubricant in one direction with more force than in the opposite direction (Col 4, lines 33-38).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Moritan to include asymmetric grooves for the desired purpose of directing the flow of lubricant in one direction with more force than in the opposite direction as taught by Sakatani.

Response to Amendment

The examiner finds potentially allowable structure in the step feature of the invention and suggests further recitation of the specific structure of the "localized region". As currently presented, the term is vague and subject to a very broad reasonable interpretation. The examiner notes that in the instant invention, the gap adjacent the grooves is wider than the gap is where the step is located. Language defining such a structural relationship is suggested. Applicant is reminded that the examiner's comments are not a statement that a claim containing such language would be allowable, as all amendments are subject to further search and consideration,

Art Unit: 3682

however the examiner provides the comment as a suggestion of a feature which the examiner views as potentially distinguishable over the prior art.

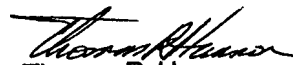
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Krause whose telephone number is 571-272-3012. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMK
10/22/07
JMK


Thomas R. Hannon
Primary Examiner